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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

50277-2502

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On July 31, 2007

Signature

Typed or printed  
name Angelica Maloney

Application Number

10/804,976

Filed

March 18, 2004

First Named Inventor

Amit Ganesh

Art Unit

2162

Examiner

Jean B. Fleurantin

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)
- ☒ attorney or agent of record.  
Registration number 37,777
- ☐ attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 CFR 1.34

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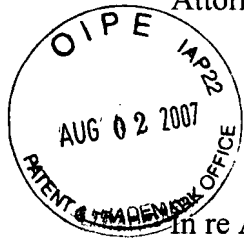
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NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☒ \*Total of 1 forms are submitted.

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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Amit Ganesh, et al.

Application No.: 10/804,976

Filed: March 18, 2004

For: PARALLEL TRANSACTION RECOVERY

) Confirmation No.: 7843

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)

) Art Unit: 2162

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) Examiner: Jean B. Fleurantin

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## Mail Stop AF

Commissioner for Patents

P. O. Box 1450

Alexandria, VA 22313-1450

## REMARKS ACCOMPANYING PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

This pre-appeal brief request for review is filed in response to the Advisory Action mailed on June 22, 2007. In the Final Office Action mailed February April 6, 2007, Claims 1, 3, 7-16, 18, 22-31, 33 and 36-40 stand finally-rejected under 35 U.S.C. § 103(a) as being unpatentable over “ARIES-RRH: Restricted Repeating of History in the ARIES Transaction Recovery Method – Pages 718-727, 1991” by *Mohan* (hereinafter “*Mohan*”) in view of *Tada et al.*, U.S. Patent No. 5,544, 359 (hereinafter “*Tada*”). It is respectfully submitted that Claims 1, 3, 7-16, 18, 22-31, 33 and 36-40 are patentable over *Mohan* and *Tada* on the basis that Claims 1, 3, 7-16, 18, 22-31, 33 and 36-40 each recite one or more limitations that are not taught or suggested by *Mohan* and *Tada*.

## CLAIM 1

Claim 1 is directed to a method for performing database recovery after a crash of an instance of a database, wherein multiple transactions were active when the instance crashed.

Claim 1 recites:

“identifying a plurality of dead transactions;  
determining statistical data about the plurality of dead transactions;  
determining that a particular number of recovery servers should be used to recover the plurality of dead transactions based on the statistical data; and  
recovering the plurality of dead transactions using the particular number of recovery servers by executing the particular number of recovery servers in parallel.”

Applicant respectfully submits that at least the Claim 1 limitations “determining statistical data about the plurality of dead transactions,” “determining that a particular number of recovery servers should be used to recover the plurality of dead transactions based on the statistical data” and “recovering the plurality of dead transactions using the particular number of recovery servers by executing the particular number of recovery servers in parallel” are not taught or suggested by *Mohan* or *Tada*, considered alone or in combination and that the Examiner’s rejections contain clear errors. Each of these limitations is discussed separately hereinafter.

With respect to the first limitation “determining statistical data about the plurality of dead transactions,” the Final Office Action and the Advisory Action both assert that this limitation is taught by *Tada* at Col. 13, line 65 through Col. 14, line 2. This portion of *Tada* describes receiving and storing statistical information for system tuning. There is no mention or suggestion in this, or any other portion of *Tada*, of determining statistical data about a plurality of dead transactions. *Tada* does not even mention dead or uncommitted transactions. It is therefore respectfully submitted that the Claim 1 limitation “determining statistical data about the plurality of dead transactions” is not taught or suggested by *Mohan* or *Tada* and that the Examiner’s assertion that this limitation is taught by *Tada* at Col. 13, line 65 through Col. 14, line 2 represents clear error since this portion of *Tada* is completely unrelated to the aforementioned limitation.

With respect to the second limitation “determining that a particular number of recovery servers should be used to recover the plurality of dead transactions based on the statistical data,” neither the Final Office Action nor the Advisory Action specifically assert where this limitation is taught or suggested by *Mohan* or *Tada*. The Final Office Action asserts that *Tada* teaches statistical information about dead transactions (at Col. 13, line 65 through Col. 14, line 2), but there is no assertion that *Mohan* or *Tada* teaches or suggests using statistical information about a plurality of dead transactions to determine that a particular number of recovery servers should be used to recover the plurality of dead transactions. Applicant has studied both references and cannot locate any teaching or suggestion of this limitation. There is no mention or suggestion in either reference of determining a particular number of recovery servers should be used to recover a plurality of dead transactions based upon statistical data about the dead transactions. There is also no mention or suggestion in either reference of using multiple servers to perform recovery of dead transactions or how the number of servers used to perform recovery might be determined. It is therefore respectfully submitted that the Claim 1 limitation “determining that a particular number of recovery servers should be used to recover the plurality of dead transactions based on the statistical data” is not taught or suggested by *Tada* and that the Examiner’s failure to clearly identify where this reference might be taught by the references constitutes clear error.

With respect to the third limitation “recovering the plurality of dead transactions using the particular number of recovery servers by executing the particular number of recovery servers in parallel,” this limitation relates to how recovery is performed and more specifically, that dead transactions are recovered using the particular number of recovery servers by executing the particular number of recovery servers in parallel. Recovering dead transactions by executing recovery servers in parallel reduces the amount of time required to recovery the dead transactions and makes the database available sooner.

The Final Office Action asserts that the third limitation “recovering the plurality of dead transactions using the particular number of recovery servers by executing the particular number of recovery servers in parallel” is taught by *Tada* and *Mohan*. With respect to *Tada*, the Final Office Action refers to the text at Col. 2, lines 14-21 and FIG. 10. This portion of *Tada* describes and depicts how the processing of two application programs, application program A and application program B, are performed in parallel. It is respectfully submitted that this processing described in *Tada* is very different than from recovering a plurality of dead

transactions by executing multiple recover servers in parallel, as is done in the approach of Claim 1. First, the processing of application program A in parallel with the processing of application program B is described and depicted in the context of using a single central processing unit 203 to process the first and second application programs A and B. Both application programs A and B reside in main memory 204 of central processing unit 203. There is no teaching or suggestion of processing application program A in parallel with application program B using multiple recovery servers operating in parallel, while Claim 1 explicitly recites executing multiple recovery servers in parallel to recover a plurality of dead transactions. Even if the application programs A and B were operating in parallel using multiple central processing units, the application programs A and B are not involved in recovering dead transactions.

With respect to *Mohan*, the Final Office Action refers to the text in *Mohan* at Page 722, Col. 1, first paragraph, lines 7-9. This states “[t]hen, the undo of the loser transactions may be performed in parallel with the processing of new transactions.” The Advisory Action also refers to the text in *Mohan* at Page 720, second paragraph, Col. 1, lines 6-12. This text describes that during an undo pass, performing undos is not a conditional operation. That is, that the ARIES system does not compare the page LSN of the affected page to the LSN of the log record to decide whether or not to undo the update. After studying this text and other text in *Mohan*, it is respectfully submitted that this text does not stand for the proposition that the undo of loser transactions is performed using multiple recovery servers executing in parallel. Rather, this text at most teaches that the undo of loser transactions may be performed in parallel with the processing of new transactions. For example, a single recovery server may be used to perform the undo of loser transactions in parallel with a single server being used to process a new transaction. So, this portion of *Mohan* refers to performing two different processes in parallel, which is completely different from recovering a plurality of dead transactions by executing multiple recover servers in parallel, as is done in the approach of Claim 1. It is therefore respectfully submitted that the Claim 1 limitation “by executing the particular number of recovery servers in parallel” is also not taught or suggested by *Mohan* and *Tada* and that the Examiner’s assertion constitutes clear error.

In view of the foregoing, it is respectfully submitted that Claim 1 recites one or more limitations that are not taught or suggested by *Mohan* and *Tada*, considered alone or in

combination, that Claim 1 is therefore patentable over *Mohan* and *Tada* and that there is clear error in the Examiner's rejection.

The dependent claims and the corresponding computer-readable media and apparatus claims are addressed on page 5 of the reply to the final Office Action mailed on June 5, 2007.

### CONCLUSION

It is respectfully submitted that all of the pending claims are in condition for allowance and the issuance of a notice of allowance is respectfully requested. If there are any additional charges, please charge them to Deposit Account No. 50-1302.

Respectfully submitted,

HICKMAN PALERMO TRUONG & BECKER LLP



Edward A. Becker

Reg. No. 37,777

Date: July 31, 2007

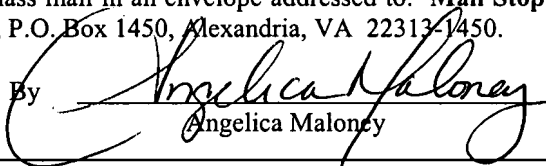
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On July 31, 2007

By

  
Angelica Maloney